

Amendments to the Claims

Claims 1-37. (Cancelled)

38. (Currently amended) An anastomosis system for connecting a graft vessel to a target vessel, comprising:

a unitary anastomosis device;

a holder tube configured to hold the unitary anastomosis device with an attached graft vessel; and

an expander including an expander tip at its distal and an annular groove proximal to the expander tip; wherein the expander is positioned within the holder tube and slidable with respect to the holder tube to a position at which at least part of the expander is positioned within the unitary anastomosis device and radially expands the unitary anastomosis device.

39. (Original) The system of claim 38, further comprising a trocar movable with respect to the holder tube to form an opening in a target vessel to receive the anastomosis device and attached graft vessel.

40. (Original) The system of claim 39, wherein the trocar is a split trocar which is slidable

over the holder tube and the anastomosis device.

42. (Original) The system of claim 38, wherein the distal end of the holder tube includes a plurality of slits for receiving pull tabs of the anastomosis device.
43. (Previously amended) The system of claim 38, wherein the distal end of the holder tube includes a plurality of hooks for receiving pull tabs of the anastomosis device.
44. (Previously amended) The system of claim 38, wherein the distal end of the holder tube includes a plurality of flexible fingers which each receive a pull tab of the anastomosis device, the flexible fingers flexing outward to form a proximal flange on the anastomosis device.
45. (Previously amended) The system of claim 41, wherein the handle is movable relative to the holder tube.
46. (Previously amended) The system of claim 41, wherein the handle is rotatable about an axis.
47. (Previously added) The system of claim 46, wherein rotation of the handle moves the expander.
48. (Previously added) The system of claim 46, wherein rotation of the handle moves the holder tube.
49. (Canceled)
50. (Canceled)

51. (Currently amended) The system of claim ~~50~~ 38, wherein the expander tip has a diameter that varies along at least a portion of its length.
52. (Currently amended) The system of claim ~~50~~ 38, wherein an edge of the annular groove is beveled.
53. (Previously added) The system of claim 38, wherein the holder tube and the expander are substantially concentric.
54. (Previously added) The system of claim 38, wherein the holder tube is substantially radially symmetrical along at least a portion of its length.
55. (Previously added) The system of claim 38, wherein the expander is substantially radially symmetrical along at least a portion of its length.
56. (Previously added) The system of claim 38, wherein at least a portion of the holder tube is substantially cylindrical.
57. (Previously added) The system of claim 38, wherein at least one end of the holder tube is open.
58. (Previously added) The system of claim 38, wherein at least a portion of the expander is substantially cylindrical.

59. (Previously added) The system of claim 38, wherein said expander is slidable away from the anastomosis device after expansion of the anastomosis device.

60. (Currently amended) A tool for deploying an anastomosis device, comprising:

a first member configured to hold the anastomosis device;

a second member, said first member and said second member threadlessly engaged with and slidable relative to one another, wherein relative motion of said first member and said second member causes deformation of the anastomosis device; and

a handle connected to at least one of said first member and said second member, said handle including an element having at least one cam slot defined therein;
wherein said first member and said second member each engage at least one said cam slot, and wherein rotation of said handle about an axis causes said first member and said second member to slide relative to one another.

61. (Cancelled)

62. (Cancelled)

63. (Cancelled)

64. (Previously added) The system of claim 60, wherein said first member and said second member are substantially concentric.

65. (Previously added) The system of claim 60, wherein said first member is substantially radially symmetrical along at least a portion of its length.
66. (Previously added) The system of claim 60, wherein said second member is substantially radially symmetrical along at least a portion of its length.
67. (Previously added) The system of claim 60, wherein at least a portion of said first member is substantially cylindrical.
68. (Previously added) The system of claim 60, wherein at least one end of said first member is open.
69. (Previously added) The system of claim 60, wherein at least a portion of said second member is substantially cylindrical.
70. (Previously added) The system of claim 60, wherein said first member is a tube.
71. (Previously added) The system of claim 60, wherein said second member is a tube.
72. (Currently amended) An anastomosis system, comprising
a unitary anastomosis device deployable from a first configuration to a second
configuration, wherein said second configuration includes at least one flange;
a first member configured to hold said unitary anastomosis device;
a second member, said first member and said second member threadlessly engaged
with and slidable relative to one another, wherein motion of at least part of said

first member deploys at least one said flange of said unitary anastomosis device; and

a handle connected to at least one of said first member and said second member, said handle including an element having at least one cam slot defined therein; wherein said first member and said second member each engage at least one said cam slot, and wherein rotation of said handle about an axis causes said first member and said second member to slide relative to one another.

73. (Cancelled)

74. (Cancelled)

75. (Cancelled)

76. (Previously added) The system of claim 72, wherein said first member and said second member are substantially concentric.

77. (Previously added) The system of claim 72, wherein said first member is substantially radially symmetrical along at least a portion of its length.

78. (Previously added) The system of claim 72, wherein said second member is substantially radially symmetrical along at least a portion of its length.

79. (Previously added) The system of claim 72, wherein at least a portion of said first member is substantially cylindrical.

80. (Previously added) The system of claim 72, wherein at least one end of said first member is open.

81. (Previously added) The system of claim 72, wherein at least a portion of said second member is substantially cylindrical.

82. (Previously added) The system of claim 72, wherein said first member is a tube.

83. (Previously added) The system of claim 72, wherein said second member is a tube.

84. (Previously amended) The tool of claim 60, wherein said deformation includes substantially radial expansion of at least a portion of said anastomosis device.